Tetraphenylmethane

Other names:	Benzene, 1,1',1'',1'''-methanetetrayltetrakis-
	Methane, tetraphenyl-
Inchi:	InChI=1S/C25H20/c1-5-13-21(14-6-1)25(22-15-7-2-8-16-22,23-17-9-3-10-18-23)24-19-11
InchiKey:	PEQHIRFAKIASBK-UHFFFAOYSA-N
Formula:	C25H20
SMILES:	c1ccc(C(c2ccccc2)(c2ccccc2)c2ccccc2)cc1
Mol. weight [g/mol]:	320.43
CAS:	630-76-2

Physical Properties

Property code	Value	Unit	Source
chs	-12988.00	kJ/mol	NIST Webbook
chs	-13000.00	kJ/mol	NIST Webbook
chs	-12943.20 ± 2.50	kJ/mol	NIST Webbook
gf	612.10	kJ/mol	Joback Method
hf	398.10 ± 6.90	kJ/mol	NIST Webbook
hf	393.00 ± 6.30	kJ/mol	NIST Webbook
hfs	247.20 ± 4.10	kJ/mol	NIST Webbook
hfs	292.00	kJ/mol	NIST Webbook
hfus	29.26	kJ/mol	Joback Method
hsub	151.00 ± 4.20	kJ/mol	NIST Webbook
hsub	140.00 ± 1.30	kJ/mol	NIST Webbook
hsub	151.00 ± 4.00	kJ/mol	NIST Webbook
hsub	150.90 ± 5.60	kJ/mol	NIST Webbook
hvap	79.05	kJ/mol	Joback Method
ie	8.41	eV	NIST Webbook
ie	8.00	eV	NIST Webbook
log10ws	-7.80		Aqueous Solubility Prediction Method
logp	6.069		Crippen Method
mcvol	268.070	ml/mol	McGowan Method
pc	1932.13	kPa	Joback Method
sg	639.00	J/mol×K	NIST Webbook
tb	874.89	K	Joback Method
tc	1163.44	K	Joback Method
tf	556.15 ± 1.50	K	NIST Webbook
tf	554.60 ± 1.00	K	NIST Webbook

tf	555.65	K	Aqueous Solubility Prediction Method
tf	553.15 ± 3.00	K	NIST Webbook
vc	0.993	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	868.89	J/mol×K	1115.35	Joback Method
cpg	855.92	J/mol×K	1067.26	Joback Method
cpg	842.21	J/mol×K	1019.17	Joback Method
cpg	827.45	J/mol×K	971.07	Joback Method
cpg	811.35	J/mol×K	922.98	Joback Method
cpg	793.59	J/mol×K	874.89	Joback Method
cpg	881.43	J/mol×K	1163.44	Joback Method
cps	368.20	J/mol×K	298.50	NIST Webbook
dvisc	0.0007604	Pa×s	479.61	Joback Method
dvisc	0.0000434	Pa×s	874.89	Joback Method
dvisc	0.0000576	Pa×s	809.01	Joback Method
dvisc	0.0000804	Pa×s	743.13	Joback Method
dvisc	0.0001197	Pa×s	677.25	Joback Method
dvisc	0.0001941	Pa×s	611.37	Joback Method
dvisc	0.0003538	Pa×s	545.49	Joback Method
hfust	48.28	kJ/mol	554.20	NIST Webbook
hsubt	135.40 ± 1.30	kJ/mol	373.00	NIST Webbook
hsubt	143.30	kJ/mol	435.00	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C630762&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Joback Method: https://en.wikipedia.org/wiki/Joback_method

Aqueous Solubility Prediction Method: http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa

Legend

chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
sg:	Molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume